WHAT IS CLAIMED IS:

1. A method of producing fluoride crystal, comprising the steps of:

dehydrating a raw material of fluoride by heating a crucible being adapted to accommodate a raw material of fluoride therein and having an exhaust mechanism for exhausting an inside gas of the crucible; and

exhausting, in said dehydrating step, an inside gas of the crucible by use of the exhaust mechanism.

2. A method according to Claim 1, wherein the crucible is further adapted to accommodate a scavenger therein, and wherein said method further comprises a step of causing reaction of the scavenger to remove impurities contained in the fluoride raw material, and a step of sealingly closing the crucible without performing the gas exhaust from the crucible by the exhaust mechanism, in said reaction step.

3. A method according to Claim 1, wherein the crucible is further adapted to accommodate a scavenger therein, and wherein said method further comprises a step of removing a product produced as a result of reaction of the scavenger, and a step of exhausting an inside gas of the crucible by use of the exhaust

mechanism in said removing step.

4. A method according to Claim 1, further comprising a step of fusing, solidifying or crystal-growing the fluoride raw material, and a step of sealingly closing the crucible without performing the gas exhaust from the crucible by the exhaust mechanism, in said fusing, solidifying or crystal-growing step.

5. A method according to Claim 1, wherein the exhaust mechanism includes an openable/closable lid provided at a top of the crucible.

6. A method according to Claim 5, wherein the lid is demountable from an opening/closing mechanism for the lid.

7. A method of producing fluoride crystal, comprising the steps of:

detecting a vacuum level of a process chamber for accommodating therein a crucible being adapted to accommodate a raw material of fluoride therein and having an exhaust mechanism for exhausting an inside gas of the crucible; and

controlling the gas exhaust through the exhaust mechanism, on the basis of the vacuum level

detected.

8. A method according to Claim7, wherein the exhaust mechanism includes an openable/closable lid provided at a top of the crucible.

9. A method according to Claim 8, wherein the lid is demountable from an opening/closing mechanism for the lid.

10. A crystal producing apparatus, comprising:

a process chamber for producing fluoride crystal;

a pressure detecting unit for detecting a pressure of said process chamber;

a crucible accommodated in said process chamber and being adapted to accommodate a raw material of fluoride therein, said crucible having an exhaust mechanism for exhausting an inside gas of said crucible; and

a control unit for controlling the gas exhaust through said exhaust mechanism, on the basis of the pressure of said process chamber detected by said pressure detecting unit.

11. An apparatus according to Claim 10,

wherein said exhaust mechanism includes an openable/closable lid provided at a top of said crucible.

12. An apparatus according to Claim 11, wherein said lid is demountable from an opening/closing mechanism for said lid.

13. An optical element produced by use of a crystal of fluoride produced by a manufacturing apparatus as recited in Claim 10.

14. An optical element according to Claim 13, wherein said optical element is one of a lens, a diffraction grating, an optical film and a composite of them.

15. An exposure apparatus in which one of ultraviolet light, deep ultraviolet light and vacuum ultraviolet light is used as exposure light, and wherein the exposure light is projected on a workpiece through an optical system including an optical element as recited in Claim 14 to expose the workpiece with the exposure light.

16. A device manufacturing method, comprising the steps of:

exposing a workpiece by use of an exposure apparatus as recited in Claim 15; and

performing a predetermined process to the exposed workpiece.

17. A device as manufactured from a workpiece exposed by use of an exposure apparatus as recited in Claim 15.